

CLAIMS

1. A station (15) for applying paint or powder to car bodies comprising:

- 5 - at least one device for transporting the bodies (2) making it possible to displace each body (2) through the station according to a direction of transport (A), the bodies not stopping in the area of the station through which they pass,
- 10 - at least one spraying robot (16) carrying at least one sprayer (25) and equipped with first means of tracking,
- characterized in that the station (15) comprises at least one so-called opener opening device (28, 29, 30)
- 15 for an openable part (3, 4, 5, 6) of the body (2), each opener being equipped with second means of tracking (32, 33, 35, 40, 42, 45) making it possible to displace it parallel to the direction of transport (A), according to a motion which tracks the displacement of
- 20 the body, these second means of tracking being distinct from the first means of tracking of the spraying robots (16).

2. The application station (15) as claimed in

25 claim 1, characterized in that it comprises at least six openers (28, 29, 30).

3. The application station (15) as claimed in one of

30 claims 1 and 2, characterized in that the first means of tracking of at least one spraying robot (16) are constituted by a composition of motion of rotation of an arm (22) of the robot (16) and of translation along an axis perpendicular to the direction of transport (A) of the base (19) of the arm (22).

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4. The application station (15) as claimed in one of claims 1 to 3, characterized in that the base (22) of at least one spraying robot (16) is mounted, in particular in a translationally mobile manner along an

axis perpendicular to the direction of transport (A),
on a lateral wall of the station (15).

5. The application station (15) as claimed in one of
5 claims 1 to 4, characterized in that the station (15)
comprises four spraying robots, two robots being
disposed laterally on each side of the direction of
transport (A).

10 6. The application station (15) as claimed in
claim 5, characterized in that at least one opener (28,
29, 30) may be cleared from the station (15), by a
movement of the opener, through an opening made in the
internal wall of the station (15).

15 7. The application station (15) as claimed in one of
claims 1 to 6, characterized in that the second means
of tracking (32, 33, 35, 40, 42, 45) of at least one
opener (28, 29, 30) comprise a carriage (32, 40)
20 mounted on at least one guide rail (33, 42) disposed
parallel to the direction of transport (A).

8. The application station (15) as claimed in one of
claims 1 to 7, characterized in that at least one of
25 the openers (28, 29, 30) comprises an articulated arm
comprising two segments (36, 37) lying in one and the
same vertical plane and able to pivot with respect to
one another.

30 9. The application station (15) as claimed in one of
claims 1 to 8, characterized in that at least one of
the openers comprises an articulated arm comprising two
segments (46, 47) translationally mobile with respect
to one another and comprising at its end a means of
35 fastening (49) intended to engage with one of the
openable parts (4, 5) of the body (2).

10. The application station (15) as claimed in one of
claims 1 to 9, characterized in that at least one of

the openers (28, 29) is mounted pivoting about a horizontal axis (A1) on second means of tracking (32, 33, 35) situated in a compartment (34) situated underneath the level of the floor of the station (15).

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11. The application station (15) as claimed in claim 10, characterized in that it comprises two openers (28, 29) mounted pivoting about a horizontal axis (A1) on second means of tracking (32, 33, 35) situated in a compartment (34) situated underneath the level of the floor of the station (15), these openers making it possible to open and to keep open respectively the trunk lid (3) and the engine hood (6) of the body (2).

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12. The application station (15) as claimed in one of claims 1 to 11, characterized in that at least one of the openers (30) is mounted pivoting about a vertical axis (A3) on second means of tracking (40, 42, 45) which are displaced in a lateral compartment (43) separated from the interior of the station (15) by a wall (44).

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13. The application station (15) as claimed in claim 12, characterized in that it comprises on each side of the direction of transport (A) at least one opener (28, 29) mounted pivoting about a vertical axis (A3) on second means of tracking (40, 42, 45) which are displaced in a lateral compartment (43) separated from the interior of the station (15) by a wall (44) making it possible to open and to keep open respectively a door (4, 5) of the body (2).

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14. The application station (15) as claimed in one of claims 12 and 13, characterized in that slots (52, 53) are made in the wall of the lateral compartment (43) so as to allow the passage of the opener (30).

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15. The application station (15) as claimed in one of claims 12 to 14, characterized in that the lateral compartments (43) receiving the openers (30) are situated underneath the stand (17) of the robots (16).

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16. A process for applying paint or powder to the interior parts of a car body comprising openable parts, the body (2) being displaced along a direction of transport (A), the body not stopping in the zone of application that it passes through, this process implementing:

- at least one means of applying paint (R01 to R04) equipped with first means of tracking of the displacement of the body, and
 - 15 - at least one means of opening of the openable parts (P01 to P04, 28, 29),
- characterized in that second means of tracking (32, 33, 35, 40, 42, 45) distinct from the first means of tracking displace the means of opening of the openable
- 20 parts (P01 to P04, 28, 29) parallel to the direction of transport (A), according to a motion which tracks the displacement of the body.

17. The process for applying paint or powder as claimed in claim 16, characterized in that at least one means of application (R01 to R04) is used in the painting of the interior parts (7, 8, 9, 10, 12, 13) corresponding to at least two openable parts (3, 4, 5, 6).

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18. The process for applying paint or powder as claimed in claim 17 to the interior parts of a car body comprising the following openable parts:

- two front doors (4),
- 35 - two rear doors (5),
- a trunk lid (3),
- an engine hood (6),

characterized in that it implements:

- four means of applying paint (R01 to R04), and

- six means of opening of the openable parts (P01 to P04, 28, 29)

and in that it comprises successively or simultaneously the steps consisting in:

- 5 - opening a first rear door (5) with a first means of opening (P01),
- opening a second rear door (5) with a second means of opening (P02),
- opening a first front door (4) with a third means of opening (P03),
- 10 - opening a second front door (4) with a fourth means of opening (P04),
- opening the trunk lid (3) with a fifth means of opening (28),
- 15 - opening the engine hood (6) with a sixth means of opening (29),
- painting with a first means of application (P01) the interior parts (7, 8, 9) corresponding to a first rear door (5) and a first portion of the interior parts (13) corresponding to the trunk lid (3),
- 20 - painting with a second means of application (P02) the interior parts (7, 8, 9) corresponding to a second rear door (5) and a second portion of the interior parts (13) corresponding to the trunk lid (3) complementary to the first portion,
- 25 - painting with a third means of application (P03) the interior parts (7, 8, 9) corresponding to a first front door (4) and a first portion of the interior parts (10, 12) corresponding to the engine hood (6),
- 30 - painting with a fourth means of application (P04) the interior parts (7, 8, 9) corresponding to a second front door (5) and a second portion of the interior parts (10, 12) corresponding to the engine hood (6) complementary to the first portion.
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